## Claims

| [c1]  | 1. A method of detecting bacterial endospores comprising:                       |
|-------|---------------------------------------------------------------------------------|
|       | providing a sample;                                                             |
|       | providing a marker chemical complexing agent;                                   |
|       | providing a laser;                                                              |
|       | determining if a marker chemical is present in said sample;                     |
|       | if said marker chemical is present, complexing said marker chemical with said   |
|       | marker chemical complexing agent                                                |
|       | exposing said sample to said laser; and                                         |
|       | detecting the presence of bacterial endospores in said sample.                  |
| [c2]  | 2. The method according to claim 1, wherein said marker chemical is dipicolinic |
| •     | acid.                                                                           |
|       |                                                                                 |
| [c3]  | 3. The method according to claim 1, wherein said marker chemical complexing     |
|       | agent is a terbium containing compound.                                         |
| [c4]  | 4. The method according to claim 1, wherein said marker chemical complexing     |
|       | agent is heated above 30 °C.                                                    |
| [c5]  | 5. The method according to claim 1, further comprising providing a release      |
| ردی   | agent.                                                                          |
|       | agent.                                                                          |
| [c6]  | 6. The method according to claim 5, wherein said release agent releases         |
|       | substantially all of said marker material from said bacterial endospores.       |
| [c7]  | 7. The method according to claim 5, wherein said release agent is               |
| ,     | dodecylamine.                                                                   |
|       |                                                                                 |
| [c8]  | 8. The method according to claim 5, wherein said release agent is heated above  |
|       | 30 °C.                                                                          |
| [c9]  | 9. The method according to claim 1, wherein said method further comprises       |
|       | detecting less than 100,000 CFU/mL of endospores.                               |
| [ 10] |                                                                                 |
| [c10] | 10. The method according to claim 1, wherein said method further comprises      |
|       | detecting less than 10,000 CFU/mL of endospores.                                |

11. The method according to claim 1, wherein said method further comprises [c11] detecting less than 5,000 CFU/mL of endospores. [c12] 12. The method according to claim 1, wherein said method further comprises detecting less than 1,000 CFU/mL of endospores. [c13] 13. The method according to claim 1, wherein said method further comprises detecting less than 500 CFU/mL of endospores. 14. The method according to claim 1, wherein said method further comprises [c14]detecting less than 100 CFU/mL of endospores. 15. The method according to claim 1, wherein said method further comprises [c15] detecting less than 20 CFU/mL of endospores. [c16] 16. The method according to claim 1, wherein said detection of the presence of bacterial endospores occurs in less than 10 minutes. 17. The method according to claim 1, wherein said detection of the presence of [c17] bacterial endospores occurs in less than 5 minutes. [c18] 18. The method according to claim 1, wherein said detection of the presence of bacterial endospores occurs in less than 3 minutes. 19. The method according to claim 1, wherein said method further includes [c19] providing a marker chemical enhancement agent and combining said agent with said sample. 20. The method according to claim 1, wherein said marker chemical [c20] enhancement agent is an AlCl  $_3$  containing compound. [c21] 21. The method according to claim 1, wherein said marker chemical enhancement agent is heated above 30  $^{\circ}$  C. [c22] 22. The method according to claim 1, wherein said laser emits light at a wavelength between 260 and 280 nanometers.

23. The method according to claim 1, further comprising:

agitating said sample.

[c23]

